

**Applicant:** Rajasekhar Bandaru

**Title:** 68730 and 69112, Protein Kinase Molecules and Uses

Therefor

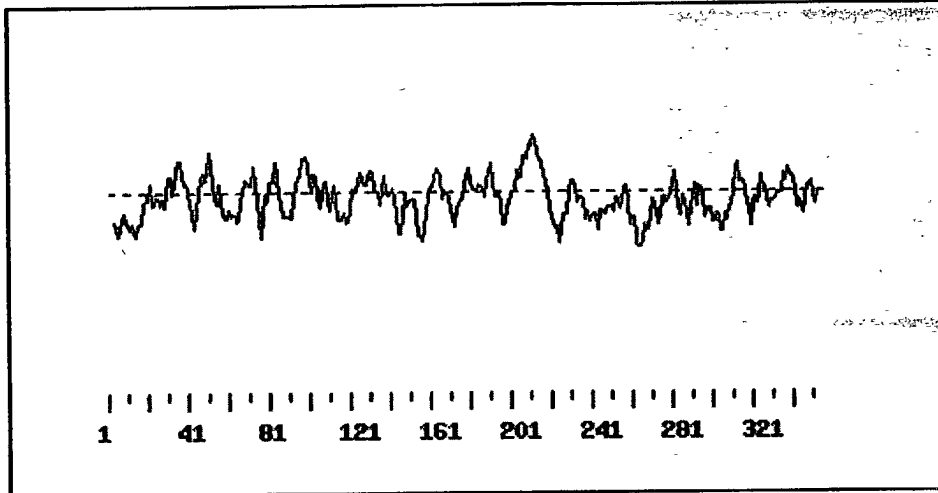
**USN:** 10/024,036

**Filed:** December 17, 2001

**Attorney/Agent:** Jean M. Silveri

**Docket No.:** MPI2000-521PIRM

Sheet 1 of 8 Sheets



**FIGURE 1**

Applicant: Rajasekhar Bandaru

Title: 68730 and 69112, Protein Kinase Molecules and Uses

Therefor

USSN: 10/110,036

Filed: December 17, 2001

Attorney/Agent: Jean M. Silveri

Docket No.: MP12000-521P1RM

Sheet 2 of 8 Sheets

10024035.070502

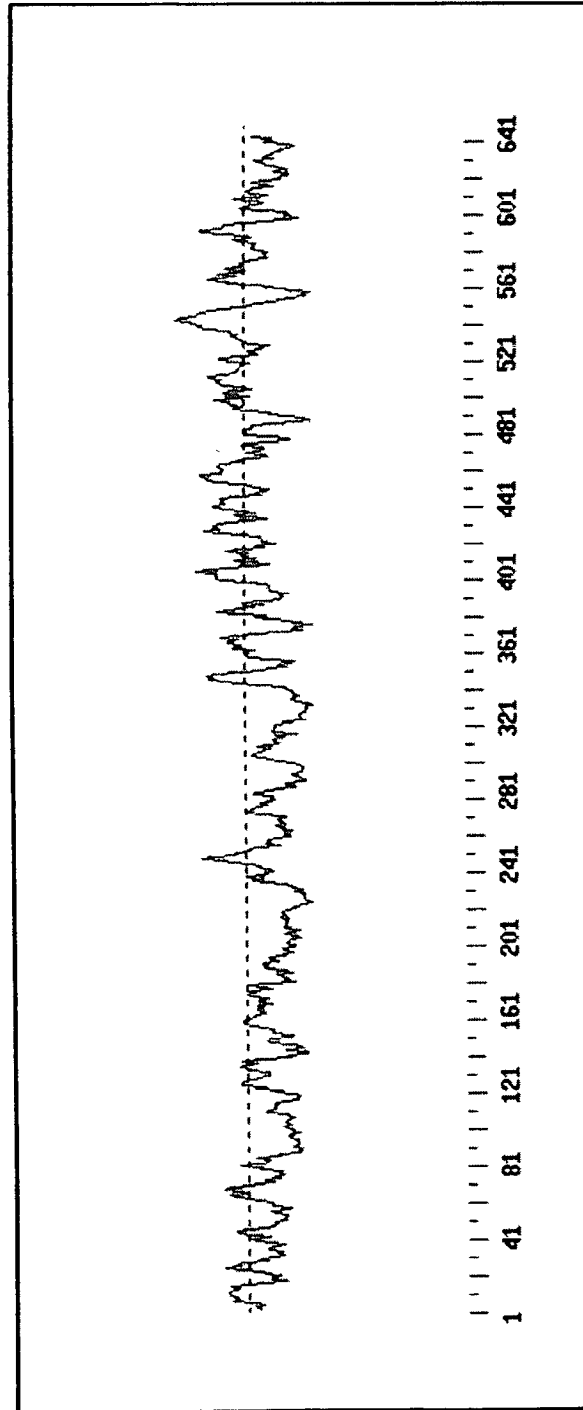


FIGURE 2

RECEIVED  
2001-12-17  
U.S. PATENT & TRADEMARK OFFICE

Applicant: Rajasekhar Bandaru  
 Title: 68730 and 69112, Protein Kinase Molecules and Uses  
 Therefor  
 US 10/024,636 Filed: December 17, 2001  
 Attorney/Agent: Jean M. Silveri  
 Docket No.: MPI2000-521PIRM

Sheet 3 of 8 Sheets

**pkinese:** domain 1 of 1, from 23 to 279: score 346.3, E = 3.4e-100  
 \*->yelleklGeGsfgkVykakhk.tgkivAvKilkkesls.....lrE  
 +e++e+lG G+f++V +a++k tgk++AvK+++k+ l+++++ +E  
 68730 23 FEFKETLGTGAFSEVLAEEKaTGKLFaVKCIPKKALKgkessiENE 69  
 iqilkrIsHpNIvrllgvfedtdhlylvmEymegGdLfdylrrngplse  
 i++l++++H+Niv l +++e +++hlylvm+++ gG+Lfd++++g ++e  
 68730 70 IAVLRKIKHENIVALEDIYE-SPNHLYLVMQLVSGGELFDRIVEKGFYTE 118  
 keakkialQilrGleYlHsngivHRDLKpeNIllden...gtvKiaDFGL  
 k+a +++Q+l ++ YLH++givHRDLKpeN+L +++++ ++ i+DFGL  
 68730 119 KDAStLIrQVLDAVYYLHRMGIVHRDLKPenLLYYSQdeesKIMISDFGL 168  
 Arll...eklTtfvGTpwYmmAPEvilegrgysskvDvWSlGviLyEllt  
 ++ +++ +++++ +GTp+Y+ APEv l +++ys++vD WS+Gvi y ll+  
 68730 169 SKMEgkgDVMSTACGTPGYV-APEV-LAQKPYSKAVDCWSIGVIAyILLc 216  
 ggplfpgadlpafTggdevdqliifvklPfsdelpktridpleelfrik  
 g +Pf+d ++ ++lf+ +  
 68730 217 G-----YPPFYD-----ENDSKLFEQI 233  
 kr.....rlplpsncSeelkdLlkkcLnkDPskRpGsatakeilnhpwf<  
 ++ + + +p ++ +S+++kd+++ + +kDP+kR+ t++++ hpw+  
 68730 234 LKaeyefDSPYWDDISDSAKDFIRNLMEKDPNKRY---TCEQAARHPWI 279  
 -\*

FIGURE 3A

Applicant: Rajasekhar Dandam

Title: 68730 and 69112, Protein Kinase Molecules and Uses Therefor

USPTO: 10/024,036

Filed: December 17, 2001

Attorney/Agent: Jean M. Silveri

Docket No.: MPI2000-521P1RM

Sheet 4 of 8 Sheets

serkin\_6: domain 1 of 1, from 23 to 279: score 386.6, E = 2.5e-112

\*->Yellkk1GkGaFGkVylardkktgrlvAiKvik.....erilrE  
+e+ ++lG GaF++V la +k tg+l+A+K+i+++ +++++ +i++E  
68730 23 FEFKETLGTGAFSEVVLAEKATGKLFAVKCIPkkalkgkeSSIENE 69

ikiLkk.dHPNIVkLydvfed.dklylVmEyceGdlGdLfdllkkrgrg  
i++L+k +H+NIV L d++e++++lylVm +++G G+Lfd+++++g  
68730 70 IAVLRKiKHENIVALEDIYESpNHLYLVMQLVSG--GELFDRIVEKGF-- 115

lrkvlsE.earfyfrQilsaLeYLHsqgIiHRDLKPeNiLLds.....hv  
++E++a ++rQ+l+a+ YLH++gI+HRDLKPeN+L s+++++ +  
68730 116 ---YTEkDASTLIRQVLDVYYLHRMGIVHRDLKPENLLYYSqdeesKI 161

KlaDFG1Arql.....ttfvGTpeYmAPEvl...gYgkpavDiWSlGci  
+++DFG1++ +++++ +t +GTp Y+APEvl +++Y+k avD WS+G+i  
68730 162 MISDFGLSKMEgkgdvmSTACGTPGYVAPEVLaqkPYSK-AVDCWSIGVI 210

lyElltGkpPFp..qldlifkkig.....SpeakdLikklL  
y+ll+G+pPF+++++ ++f++i++ +++ ++++++ S++akd+i++l+  
68730 211 AYILLCGYPPFYdeNDSKLFEQILkaeyefdsywddiSDSAKDFIRNLM 260

vkdpEkRlta.eaLedeldikaHPff<-\*  
+kdP+kR+t++++a + HP++  
68730 261 EKDPNKRYTCeQAAR-----HPWI 279

FIGURE 3B

Applicant: Rajasekhar Bandaru

Title: 68730 and 69112, Protein Kinase Molecules and Uses

Therefor

ISSN: 10/024,033

Filed: December 17, 2001

Attorney/Agent: Jean M. Silveri

Docket No.: MPI2000-521PIRM

Sheet 5 of 8 Sheets

tyrkin\_6: domain 1 of 1, from 23 to 279: score 35.7, E = 4e-14

68730 23 \*->ltlgkkLGeGaFGeVyKgtlk...ieVAVKtLkeda....keeFlrE  
+++++LG GaF eV++++ k ++ AVK++ + a +++ + +E  
FEFKETLGTFGAFSEVVLAEEKatgKLFVAVKCIPKKAlkgkESSIENE 69

68730 70 akiMkklGgkHpNiVklLlGvcteeerrfmevePlmivmEymegGdLldyL  
+ +++k+ kH+NiV+L + ++ l++vm +++g L d++  
IAVLRKI--KHENIVALEDIYESP-----NHLYLVMQLVSGGELFDRI 110

68730 111 rknrpklslsdLlsfAlQIAkGMeYLesknfvHRDLAARNcLvgenk...  
++ + +d Q+ + YL+++++vHRDL N L+ ++ ++  
-VEKGFYTEKDASTLIROVLDAVYYLHRMGIVHRDLKPENLLYYSQDees 159

68730 160 vvKIsDFGLsRdlyddDkkGeskyYrkkggkggkgtllPirWmAPESlkd  
+ IsDFGLs+ + + d+ +++ g+ + APE+l  
KIMISDFGLSKMEGKG-----DVMSTAC--GTPG-----YVAPEVLAQ 195

68730 196 gkFtskSDVWSFGVLWEiftlGeqPYpgeiqqfmsneevleylkkGyRl  
+ ++ + D WS GV + i+ G +P ++ +++ ++e++ k ++  
KPYSKAVDCWSIGVIAAY-ILLCGYPPFYD-----ENDSKLFEQILKAEYE 239

68730 240 pkPendlpisS....vtCPdelydlMlqCwaedPedRPtFsel..verl<  
++ ++ + + d + +lM++ dP++R t ++ ++ +  
FDSPY-----WddisDSAKDFIRNLMEK----DPNKRYTCEQAarHPWI 279

FIGURE 3C

Applicant: Rajashekar Sundara

Title: 38730 and 69112, Protein Kinase Molecules and Uses 4036, 070502  
Therefor

USPN: 10/024,036

Filed: December 17, 2001

Attorney/Agent: J. M. Silveri

Docket No.: MPI2000-521PIRM

Sheet 6 of 8 Sheets

pkinase: domain 1 of 1, from 356 to 613: score 350.2, E = 2.3e-101  
\*->yelleklGeGsfgGkVykakhk.tgkivAvKilkkesls.....lrE  
ye+++++G G+f++V++++h++t + +A+Ki++k++l+++++ +E  
69112 356 YETGRVIGDGNFAVVKECRHRReTRQAYAMKIIDKSRLKgedmvdSE 402  
  
iqilkrIsHpNivrlIlgvfedtdhlylvmEymegGdLfdylrrngplse  
i i ++lsHpNiv+l++v+e td ++yl++Ey+ gGdLfd ++++++e  
69112 403 ILIIQSLSHPNIVKLHEVYE-TDMEIYLILEYVQGGDLFDAIIESVKFPE 451  
  
keakkialQilrGleYlHsngivHRDLKpeNIllden....gtvKiaDFG  
++a ++ +++++l ++H+++ivHRDLKpeN+L+ +n++++ t+K+aDFG  
69112 452 PDAALMIMDLCKALVHMHDKSIVHRDLKPENLLVQRNedksTTLKLADFG 501  
↑ ↑  
LArlI.eklttfvGTpwYmmAPEvilegrgysskvDvWSlGviLyElltg  
LA+ + + t++GTp+Y+ APE+ l+ +gy+ +vD+W+ GviLy ll+g  
69112 502 LAKHVvRPIFTVCGTPTYV-APEI-LSEKGYGLEVDMWAAGVILYILLCG 549  
  
gplfpgadlpafTggdevdqliifvklPfsdelpktridpleelfrikk  
+Pf+ ++ +elf+i++  
69112 550 -----FPPFRS-----PERDQDELFNIIQ 568  
  
r.....rlplpsncSeelkdLlkkcLnkDPskRpGsatakeilnhpwf<-  
++ + ++p ++n+S+++kdL++++L +DP+kR+ ta+++l+hpw+  
69112 569 LghfefLPPYWDNISDAAKDLVSRLLVVDPKKRY---TAHQVLQHPWI 613

\*

FIGURE 4A

Applicant: Rajasekhar Dandam

Title: 68730 and 69112, Protein Kinase Molecules and Uses Therefor

USN: 10/024,036

Filed: December 17, 2001

Attorney/Agent: John M. Silveri

Docket No.: MPI2000-32:PIRM

Sheet 7 of 8 Sheets

serkin\_6: domain 1 of 1, from 356 to 613: score 372.7, E = 3.8e-108  
\*->YellkkkIGkGaFGkVylardkktgrlvAiKvik.....erilrE  
Ye ++++G G F++V+ +r+++ + +A+K+i++++ ++++++ +E  
69112 356 YETGRVIGDGNFAVVKECRHRETRQAYAMKIIDksrlkgkeDMVDSE 402  
  
ikiLkk.dHPNIVkLydvfed.dklylVmEyceGdlGdLfdllkkrgrg  
i i ++ HPNIVkL++v+++ ++yl++Ey+ G GdLfd + + +  
69112 403 ILIIQSISHPNIVKLHEVYETdMEIYLILEYVQG--GDLFDAIIESVK-- 448  
  
lrkvlse.earfyfrQilsaLeYLHsqgIiHRDLKPeNiLLds.....h  
++E++a+ ++ +aaL ++H++ I+HRDLKPeN+L+ ++++++  
69112 449 ----FPEpDAALMIMDLCKALVHMDKSIHVRLKPeNLLVQRnedkstT 494  
  
vKlaDFGLArql....ttfvGTpeYmAPEvl...gYgkpavDiWSlGcil  
+KlaDFGLA+++ ++ t++GTP Y+APE+l+++gYg +vD+W+ G+il  
69112 495 LKLADFGlAKHVvrpiFTVCGTPTYVAPEILsekGYGL-EVDMWAAGVIL 543  
  
yElltGkpPFp....qldlifkkig.....SpeakdLikk1  
y+ll+G pPF+++++++d++f++i ++ + +++++ S+ akdL+++l  
69112 544 YILLCGFPPFRsperDQDELfNIIQlghfelfppywdniSDAAKDLSRL 593  
  
LvkdPekRlta.eaLedeldikaHPff<-\*  
Lv+dP+kR+ta+++L+ HP++  
69112 594 LVVDPKKRYTAhQVLQ-----HPWI 613

FIGURE 4B

Applicant: Rajasekhar Dandaru

Title: 68730 and 69112, Protein Kinase Molecules and Uses

Therefor

U.S. Pat. No. 6,036

Filed: December 17, 2001

Attorney/Agent: John M. Silveri

Docket No.: MPI2000-521PIRM

Sheet 8 of 8 Sheets

tyrkin\_6: domain 1 of 1, from 356 to 613: score 50.0, E = 5.3e-15  
\*->ltlgkkLGeGaFGeVykgTlk...ieVAVKtLkeda...keeFlrE  
+ g+++G G+F +V +++ +++++ A K + ++ +++++ + +E  
69112 356 YETGRVIGDGNFAVVKECRHRetrQAYAMKIIDKSRIkgkEDMVDSE 402  
  
akiMkklGgkHpNiVklLgVcteegrrFmevePlmivmEymegGdLldyL  
+ i +l +HpNiVkl+ v ++ +++++Ey+ gGdL d +  
69112 403 ILIIQSL--SHPNIVKLHEVYETD-----MEIYLILEYVQGGDLFDAI 443  
  
rknrpklsIsdLlsfAlQIAkGMeYLesknfvHRDLAARNcLvgenk...  
++ + ++ +d + + +k + ++k +vHRDL N Lv +n +++  
69112 444 IESVK-FPEPDAALMIMDLCKALVHMHDKSIVHRDLKPENLLVQRNEdks 492  
  
.vvKIsDFGLsRdlyddDkkGeskdYrkkggkggktllPirWmAPESlk  
++ K +DFGL++ + ++ +g APE l  
69112 493 tTLKLADFGLAHVVRP-----IFTV----CGTP----TYVAPEILS 526  
  
dgkFtskSDVWSFGVlLWEiftlGeqPYpgeiqqfmsneevleylkkGyR  
++ + + D W+ GV L+ i+ G +P ++ + +e+++ ++ G+  
69112 527 EKGYGLEVDMWAAAGVILY-ILLCGFPPFRSPE---RDQDELFNIIQLGHF 572  
  
lpkPendlpiSsvtCPdelYdlMlqCwaedPedRPtFsel..verl<-\*  
P++ +d+ dl ++ dP++R t ++ ++ +  
69112 573 EFLPPY-----WDNISDAAKDLVSRLLVVDPKKRYTAHQVlqHPWI 613

FIGURE 4C